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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,130	02/22/2002	David Ernest Johnston	01-0002	8493

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FREUDENBERG-NOK GENERAL PARTNERSHIP
LEGAL DEPARTMENT
47690 EAST ANCHOR COURT
PLYMOUTH, MI 48170-2455

EXAMINER

PATEL, VISHAL A

ART UNIT PAPER NUMBER

3673

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/081,130	JOHNSTON, DAVID ERNEST	
	Examiner	Art Unit	
	Vishal Patel	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/3/05, 1/19/06 and 3/8/06.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter “wherein the polymeric liner is free from any radial contact with the case”, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. This is the case since the polymeric liner does contact a radial portion of a case and then is pulled away from the case, so in conclusion the polymeric liner is not free from any radial contact with the case.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “wherein the polymeric liner is free from any radial contact with the case” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure

must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 6-9, 11-14 and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Stallings (US. 2,804,324).

Regarding claims 1-4: Stallings discloses a shaft seal assembly comprising a case (89) having an axial portion and a radial portion (axial portion 92 and radial portion 94), an elastomeric seal body (body 100 that contacts the axial portion) molded (method limitation given no patentable weight) to the case, an elastomeric lip portion (lip portion 98) extending from the seal body, a first end (end adjacent to hinge portion) of the elastomeric lip portion originating adjacent a hinge portion (hinge portion as showed in attached figure), a polymeric liner (110 that extends along the entire elastomeric lip portion) bonded (method limitation given little patentable

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weight in an apparatus claim) along its full length of the elastomeric lip (the liner is bonded to the full length of the elastomeric lip), the first end of the lip portion and a portion of the liner extending over at least a portion of the radial portion of the case (the elastomeric lip and the liner extend on a distal end of the radial portion), the entire polymeric liner being movable with the elastomeric lip portion about the hinge portion toward and away from the case (the liner is capable of being move along the entire length). The case having a radial portion generally disposed in a plane and the radial portion having an innermost free end disposed in the plane. The case includes the radial portion having a length (length of 94). The elastomeric seal body includes a radial portion (radial portion of 100 that is in contact with the radial portion of the case) having a length less than the radial portion of the case (this is the case since the elastomeric body 100 does not extend along entire length of 94). The elastomeric lip portion (98) extends over at least a portion of the length of the radial portion of the case (the elastomeric lip portion 98 that is adjacent to the radial portion 94). The elastomeric lip portion is integrally formed with the elastomeric seal body and extends over the length of the radial portion of the case of which the radial portion of the elastomeric seal body does not extend (this is the case since the elastomeric body is 100 and the elastomeric lip portion 98 are integral). The polymeric liner is bonded to the elastomeric lip portion (the liner is bonded to the elastomeric lip portion 98, but this is method limitation that is given little patentable weight in an apparatus claim).

Regarding claims 6-9: A seal assembly including a case (89) having a radial portion (94), an elastomeric seal body (100) molded to case and not covering the entire radial portion of the case (this is the case since the elastomeric body is 100 and the elastomeric lip portion 98 are integral). An elastomeric lip portion extending from a hinge portion of the elastomeric seal body

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and covering the radial portion of the case not covered by the elastomeric seal body. A polymeric liner bonded along its full length of the elastomeric lip portion, a portion of the elastomeric lip portion and a portion of the polymeric liner extending over at least a portion of the radial portion of the case. The entire polymeric liner being movable about the hinge portion with the elastomeric lip portion toward and away from the case. Material of the elastomeric lip portion adjacent the elastomeric seal body and the radial portion of the case forms a flexible hinge (flexible hinge as showed in attached figure). The polymeric line is formed from polytetrafluoroethylene (column 2, line 70 to column 3, lines 6). The polymeric liner includes a contact surface.

Regarding claim 11: A seal assembly for use with a rotating element comprising a case having an axial portion and a radial portion, a seal body bonded to at least the radial portion of the case, a hinge portion extending from the seal body adjacent to a terminating section of the radial portion of the case. A lip extending from the hinge portion. A liner bonded along its full length to the lip over the full length of the lip, a portion of the lip and a portion of the liner extending over at least a portion of the radial portion of the case, the entire liner being movable with the lip portion about the hinge portion toward and away from the case.

Regarding claim 12: The seal body, the hinge portion, and the lip are integrally formed together.

Regarding claim 13: The seal body, the hinge portion, and the lip are formed from an elastomeric material.

Regarding claim 14: The liner is formed from polytetrafluoroethylene.

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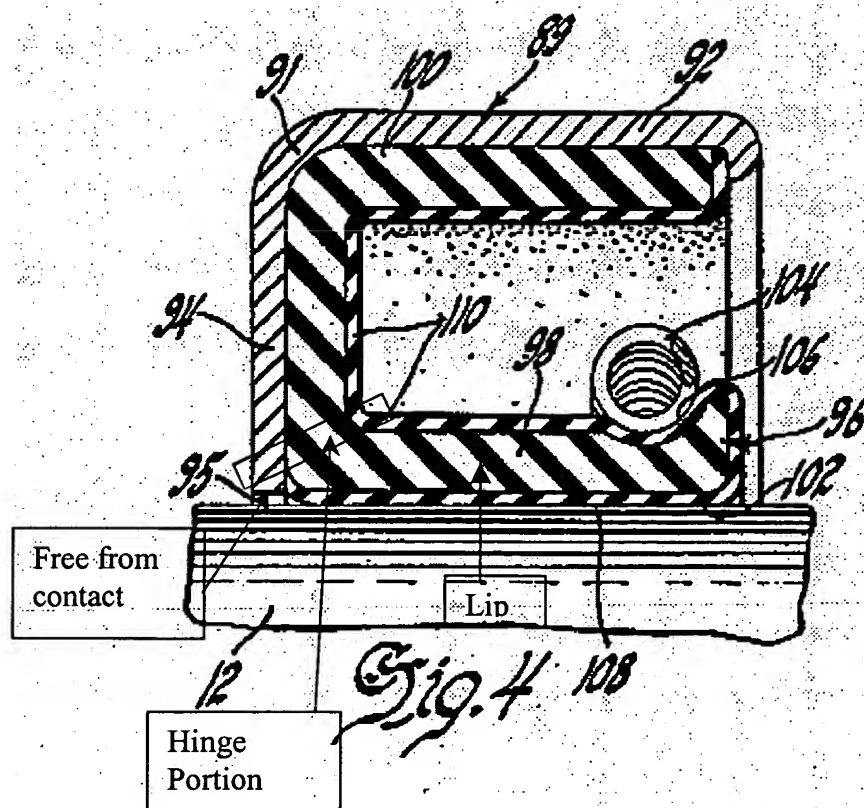
Regarding claim 16: The radial portion of the case has a length that is greater than the radial length of the seal body (this the case since the body extends only a portion of the radial length, the hinge extends over a second portion of the radial length and the lip extends over a third portion of the radial length).

Regarding claim 17: The hinge extends over the radial portion of the case that is not covered by the seal body.

Regarding claim 18: The liner is bonded to the lip.

Regarding claim 19: The hinge portion receives more bending stresses than the liner (this is the case, since the hinge portion is the one that gets bent).

Regarding claim 20: The lip receives more bending stresses than the liner (this is the case since the lip is the one that gets bent with the hinge portion).



Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 5, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stallings in view of Riesing (US. 2,804,325).

Stallings discloses the invention substantially as claimed above but fails to disclose that the polymeric liner has hydrodynamic grooves. Riesing discloses a polymeric liner having hydrodynamic grooves (54). It would have been obvious to one having ordinary skill in the art at the time the invention was made to configure the polymeric liner of Stallings to have hydrodynamic grooves as taught by Riesing to provide a more effective seal and to pump fluid away from the sealed surface (column 2, lines 48-52 of Riesing).

Response to Arguments

8. Applicant's arguments filed 11/3/05 have been fully considered but they are not persuasive.

Applicants' argument that the against the 112 first paragraph rejection is not persuasive because as seen in figures 1-2 the liner does contact in a radial surface of the radial portion of the case. Furthermore applicant has not pointed out where this limitation (the liner is free from any radial contact with the case) is mentioned in the specification. Furthermore applicant has argued on pages 7 and 8 of the response that the liner is free from contact with an axial inner surface of the radial portion of the casing, which is correct but not claimed by the applicant.

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9. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reference of Victor teaches to have a lip seal having a liner on an elastomeric lip that extends from an elastomeric body and having a hinge portion between the elastomeric lip and the elastomeric body but does not teach that the liner being PTFE but this is taught by Stallings or evidence is provided by Mastrobattista that fabric coating or PTFE coating is used to provide seal enhancement to a certain extent.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vishal Patel whose telephone number is 571-272-7060. The examiner can normally be reached on 6:30am to 8:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on 571-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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VP

August 4, 2006

A handwritten signature in black ink, appearing to read "Vishal Patel". The signature is stylized with a large, sweeping "V" and a cursive "Patel".

Vishal Patel
Patent Examiner
Tech. Center 3600